"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KOLESNIKOV, G.S.; KORSHAK, V.V.; KULYULIN, I.P.

High molecular weight compounds. Part 96. Synthesis and polymerization of 4-vinyldiphenylethane. Zhur.ob.khim. 26 no.3:735-739 Mr '56. (MLRA 9:8)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Ethane)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V.V.; FRUNZE, T.M.

High molecular weight compounds. Part 98. Relation of the properties of mixed polyamides to the amount of hydrogen bonds. Zhur.ob. khim. 26 no.4:1212-1216 Ap '56. (MLRA 9:8)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Amides)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V., VINOGRADOVA, S. V., and BELYAKOV, V. M.

"Synthesis and properties of polyesters of various dicarboxydic acids and glycols," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Organic Chemistry Research Inst.

B-3,084,395

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V., FRUNZE, T. M., MAKARKIN, V. A., and KRASNYANSKAYA, E. A.

"Properties of co-polyamides as a function of their composition," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan- 2 Feb 57, Moscow, Polymer Research Inst.

B3,084,395

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V., SERGEYEV, V. A.

"Mechanism of decomposition of a few aliphatic diazo compounds, and their use for the formation of polymers," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Organic Chemistry Research Inst.

B-3,084,395

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V., VINOGRADOVA, S. V., SLONIMSKIY, G. L.

"Mechanical properties of aliphatic amorphous polyethers," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Research Inst. of Organic Chemistry.

B-3,084,395

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V., KALESNIKOV, G. S., and SHUBANOV, B. A.

"Polycondensation of aryldichloro-phosphine with diphenylethane," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Organic Chemistry Research Inst.

B-3,084,395

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V., GRIBOVA, I. A., and SHITIKOV, V. V.

"Polycondensation of bis-β-Chlor-ethyl-ether, with alkyl-and aryl-phosphinic-acids," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Organic Chemistry Research Inst.

B-3,084,395

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V., GOLUBEV, V. V., and KARPOVA, G. V.

"Investigation of rubbery mixed polyesters, " a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Research Inst. Organic Chem, Acad. Sci.

B-3,084,395

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V., SUPRUN, A.P., and KOLESNIKOV, G. S.

"Polycondensation of the system benzol-chlorobenzene-dichlor-ethane," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Organic Chemistry Research Inst.

B-3,084,395

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V., And SLONIMSKIY, G. L.

"Molecular weight distribution in polycondensation products," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Tashkent Textile Research Inst.

B-3,084,395

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

/ High-molecular resins continuous
condensation of ethylene chloride with benzene
Kalenskii, V. I. Zaitsev and L.
Heterogen. Compds. Nov.
S.S.S.R., Otdel. Khim. Nauk 1957
16704, 16704f — Condensation
pressure of $AlCl_3$ was erased
mer with dihydroanthracene units
units causes cessation of chain growth
tion of branched and trifunctional polymers
mole-% $AlCl_3$ and the reaction being
1.5 hr. at 160°. The increase of

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

mole % $AlCl_3$ and the reaction being run at 60°, 1 hr., then
1-1.5 hrs. at 100°, the increase of the ratio of CH_3C_6-
H_4 from 0.5 to [illegible] results in [illegible]
from 21.4 to 8.3% [illegible] and in [illegible]
[illegible] of $C_6H_4(CH_3)_2$ [illegible]
[illegible] range [illegible]

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Distr: Eng/E

Hetero-chain polyesters

Nauk 1957, 730-6.—The conventional transesterification of di-Me esters of isomeric benzenedicarboxylic acids with glycols in the presence of PbO catalyst

trimethylene glycol

ene glycol, m −8° to

BtGH and C_6H_6 are

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

V. V. Korshak, S. V. Vinogradova

II Polyesters of isomeric biphenylidenebenzi[illegible]

di-Me esters of isomeric biphenyl[illegible]

the corresponding polyesters [illegible]

[illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

OV SMOK V.V.

KORSHAK, V.V.; VINOGRADOVA, S.V.

Heterocyclic polyesters. Report No.5: Polyesters of diglycolic acid. Izv.AN SSSR.Otd.khim.nauk. no.7:866-870 Jl '57. (MIRA 10:10)

1.Institut elementoorganicheskikh soyedineniy AN SSSR.
(Diglycolic acid)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V.V.; VINOGRADOVA, S.V.; BELYAKOV, V.M.

Heterogenous chain polyesters. Report No.7: Polyesters of p-phenylenediacetic, cis- and trans-hexahydroterephthalic acids. Izv. AN SSSR. Otd. khim. nauk no.8:1000-1001 Ag '57. (MIRA 11:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Esters) (Terephthalic acid) (Acetic acid)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Korshak, V. V.

Distr: 4E4j/4:2c(j)

Heterochain polyamides. II. Kinetic peculiarities of polycondensation of diamines with dicarboxylic acids [illegible]

[illegible] mole

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Korshak, V.V.

KHARITONOV, V.M.; FRUNZE, T.M.; KORSHAK, V.V.

Studies in the field of heterogeneous chain polyamides. Report No.3: Polymerization kinetics of ε-caprolactam in the presence of hexamethylenediammonium adipinate. Izv. AN SSSR. Otd. khim. nauk no.9:1134-1136 S '57. (MIRA 10:12)

1. Nauchno-issledovatel'skiy institut iskusstvennogo volokna i Institut elementoorganicheskikh soyedineniy AN SSSR.
(Hexamethylenimine) (Polymerization)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Korshak, V.V.

KHARITONOV, V.M.; FRUNZE, T.M.; KORSHAK, V.V.

Studies in the field of heterogeneous chain polyamides. Report No.4: Kinetics of the formation of mixed polyamides from hexamethylenediammonium salts. Izv. AN SSSR. Otd. khim. nauk no.9:1136-1138 S '57. (MIRA 10:12)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Nauchno-issledovatel'skiy institut iskusstvennogo volokna.
(Amides) (Ammonium salts)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V.V.; SOSIN, S.L.; CHISTYAKOVA, M.V.

Letters to the editor. Izv. AN SSSR Otd. khim. nauk no.10:1271 O '57. (MIRA 11:3)

1.Institut elementoorganicheskikh soyedineniy AN SSSR.
(Cumene) (Oxides)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V.

AUTHORS: Kolesnikov, G.S., Korshak, V.V., Smirnova, T.V. 62-12-8/20

TITLE: The Synthesis of Polyarylene Alkyls (Sintez poliarilenalkilov) Information 1. The Polycondensation of Ethylene Chloride With Halide Derivatives of Benzene (Soobshcheniye 1. Polikondensatsiya khloristogo metilena s galoidoproizvodnymi benzola)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1957, Nr 12, pp. 1478-1481 (USSR)

ABSTRACT: In the papers hitherto published the influence exercised by the existing substituents in aromatic hydrocarbons upon the course taken by the process of polycondensation of these hydrocarbons with 1,2 dichlorine ethane [2-5] was described. In order to determine the above mentioned influence in aromatic hydrocarbons on the process of the polycondensation of these hydrocarbons with ethylene chloride this investigation was carried out. The method employed was the same as in the case of the condensation of methylene chloride with halide derivatives of benzene. The following is said by the authors about the results obtained by this investigation: The monohalide derivatives of benzene enter into polycondensation reaction with ethylene chloride in the presence of aluminum chloride. Polycendensation

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

The Synthesis of Polyarylene Alkyls. Information 1. 62-12-8/20
The Polycondensation of Ethylene Chloride With Halide Derivatives of Benzene

develops in a similar manner as that of methylene chloride with benzene (see tables 1 and 2). In the polycondensation of methylene chloride with bromo-benzene p-dibromo-benzene was found as a basic low-molecular reaction product. Its formation is due to the condition of the bromine atom from a molecule of bromo-benzene to another under the influence of aluminum chloride. Besides p-dibromo-benzene dibromo-phenyl methane is formed as a low-molecular product of the reaction (by oxidation dibrome-benzophenon was obtained). The presence of the halide atom, by the way, exercises no considerable influence upon the course taken by polycondensation. There are 2 tables, and 8 references, 5 of which are Slavic.

ASSOCIATION: Institute for Element-Organic Compounds AN USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR).

SUBMITTED: July 30, 1956

AVAILABLE: Library of Congress

Card 2/2 1. Ethylene chlorides 2. Benzine-Halide derivatives 3. Polycondensation

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Korshak, V.V., Sergeyev, V.A. 62-12-16/20

TITLE: On the Additional Components of Diazomethane with Unsaturated Compounds (O produktakh prisoyedineniya diazometana k nepredel'nym soyedineniyam).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1957, Nr 12, pp. 1495-1497 (USSR)

ABSTRACT: The reaction of diazomethane with olefines leads to the formation of various pyrazolines [1,2]. As a result of the reaction after the addition of diazomethane to stirol methylcrylate, diacrylate of ethylene glucol pyrazoline was obtained. It was found that with the setting in of interaction between the diazomethane and stirol, 3-phenylpyrazoline is formed. Furthermore, products of the linkage between diazomethane and the glucol esters of acrylic- and metacrylic acids were obtained. Finally, the kinetics of the decay of the glucol esters of pyrazoline-3-carboxylic acid and 5-methylpyrazoline-5-carboxylic acid was investigated. There are 2 figures, 2 tables, and 5 references, 2 of which are Slavic.

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

On the Additional Components of Diazomethane with Unsaturated Compounds 62-12-16/20

ASSOCIATION: Institute for Elemental-organic Compounds AN USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR).

SUBMITTED: May 28, 1957

AVAILABLE: Library of Congress

Card 2/2 1. Diazomethane-Olefines-Reactions 2. Diazomethane-Components

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V.

"Rich Starting Materials," by V. Korshak, Corresponding Member, Academy of Sciences USSR, Promyshlenno-Economicheskaya Gazeta, No 18, 10 Feb 57

"Continued investigation of the synthesis of heterochain polyamides and polyesters opens up wide prospects for developing new synthetic materials which possess a number of valuable properties. A laboratory team at the Institute of Organoelemental Compounds, Academy of Sciences USSR, succeeded in attaining some significant results in this field.

"It has been established how the structure of molecules affects the properties of polymers including their temperature of softening, mechanical properties, solubility, and capacity of crystallize.

SUM. 1305

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Kuhzmann, V.

"At the laboratory where this work was conducted, more than 200 different high-molecular polyamides and polyesters were synthesized. Many of these substances can serve as initial materials for synthetic fibers, films, and plastics. About 20 of the most promising compounds were subjected to testing with the view of introducing them into industrial production. For instance, varnishes were prepared on the basis of the mixed polyamide Anid G-669, which is readily soluble in alcohol and has a high resistance to abrasion. The films which are formed on application of this varnish were found to be elastic to such an extent that no addition of a plastizer is needed.

"Mixed polyesters are being investigated with the purpose of preparing elastic synthetic fibers from them. Together with the All-Union Scientific Research Institute of Synthetic Fibers, we are investigating the possibility of producing a synthetic fiber derived from thiodivaleric acid. The work in question is of value because it will make it possible to utilize a by-product of the manufacture of amino-enanthic acid."

SUM. 1305

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Korshak, V.K.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V.

74-11-4/7

AUTHOR: Korshak, V. V., (Moscow)

TITLE: Fundamental Stages in the Advancement of the Chemistry of Highly Molecular Compounds Since 40 Years (Osnovnyye etapy v razvitii khimii vysokomolekulyarnykh soyedineniy za 40 let)

PERIODICAL: Uspekhi Khimii, 1957, Vol. 26, Nr 11, pp. 1295 - 1309 (USSR)

ABSTRACT: The field of highly molecular compounds experienced an impetuous development only in the years of Soviet rule, but the foundations were laid already by such scientists as Butlerov and Lebedev. Within the last years, new synthesis were developed in the fields of synthetic caoutchouc, plastic masses, synthetic fibers, and leathers, as well as the conversion of natural polymers, such as cellulose, starch, and albumin. Specialists were trained for their industry. In the years from 1925 to 1935, the fundamental principles on the macro molecule, its difference form the normal molecule, as well as the character of polymerization, and polycondensation were developed in which case the elaborate investigations of Shorygin and Lebedev were decisive. Semyenov, and his students cleared up the mechanics of polymerization. Ushakov clarified the conception of common polymerization, and organic compounds (e.g. Vinylacetate and monomethylmaleinate). Other chemists investigated the rules

Card 1/2

Card 2/2

CIA-RDP86-00513R0008249300

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK V.V.

Transformation of

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

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[illegible] oxidation and dehydration of [illegible]

[illegible]

[illegible] the dehydration [illegible] the OH removed considerable [illegible] results were obtained with [illegible] oxidation, OH and O combined at the double bonds. However, on oxidation of oleic acid with air some linkages are formed between C and H not adjoining C atoms joined with a double bond. Side reactions of polymerization and condensation occur simultaneously, but at a lower rate. The results indicate that the process of dehydration [illegible] and natural hydroxy acids and their [illegible]

I. Bergelson

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Formation of Polymeric Hydrocarbons at the Decomposition of Aliphatic Diazocompounds. 20-2-31/62

te forms only benzaldehyde and liberates nitrogen. Corresponding azines also form on decomposition of the two first substances, but in small amounts. Diazophenylmethane in the presence of boron fluoride forms only benzophenone azine and nitrogen. The authors also studied copolymers by decomposition of diazomethane and -ethane mixtures in the presence of trimethylborate, as well of diazomethane with diazotoluol in the presence of boron fluoride. In this case occurs the formation of a mixture of products consisting of polymethylene, the corresponding co-polymer and of a mixture of corresponding azines; on decomposition of a mixture of diazomethane and -ethane a copolymer forms which contains a varied number of side methyl groups according to the quantitative composition of initial substances. The resulting copolymer can be considered an analog of polyethylene which is obtained at high pressures in case that the number of side methyl groups is not great. In the case of equal quantities of starting materials the copolymer can be considered an analog of polypropylene. Thermomechanic characteristics of the individual substances produced are given, as well as roentgenograms and thermomechanical curves for the copolymers and their interrelations are discussed. Ill.4 gives thermomechanical curves for polystyrene which was produced by copolymerization of diazomethane and diazotoluol in the presence of boron fluoride, further of block polystyrene which was obtained from a radical polymerization of sty-

Card 2/3

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V

(Institute of Hetero-Organic Compounds, Academy of Sciences of USSR, Moscow.)

"Some Special Features of Organic Polymers Containing Phosphorus," paper submitted at Soviet High-Polymers, Intl. Conference, Nottingham, UK, 21-24 July 1958

E-3,109,661

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V.

B. B. Korshak, G. M. Frunze, E. V. Kukharskaya and D. I. Andreyeva, "The Synthesis of Polyamides from Silicon-containing Dicarbonic Acids."

Report presented at The Second All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds held in Leningrad from 25-27 September 1958.
Zhurnal prikladnoy khimii, 1959, Nr 1, pp 238-240 (USSR)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

5(3) PHASE I BOOK EXPLOITATION SOV/1496

Korshak, Vasiliy Vladimirovich, and Svetlana Vasil'yevna Vinogradova

Geterotsepnyye poliefiry (Heterochain Polyesters) Moscow, Izd-vo AN SSSR, 1958. 403 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut elementoorganicheskikh soyedineniy.

Resp. Ed.: S.R. Rafikov, Doctor of Chemical Sciences; Ed. of Publishing House: A.L. Bankvitser; Tech. Eds.: I.F. Kuz'min, and P.S. Kashina.

PURPOSE: This book is intended for scientists, students and teachers of vuzes, and engineering technologists engaged in the production of synthetic fibers, color varnishes, and plastics.

Card ~~1/13~~
1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V.V.

KARGIN, V.A.

5(3) P4 PHASE I BOOK EXPLOITATION SOV/1589

Akademiya nauk SSSR.

Khimiya bol'shikh molekul; sbornik statey (Chemistry of Large Molecules; Collection of Articles) Moscow, Izd-vo AN SSSR, 1958. 299 p. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya seriya) 30,000 copies printed.

Compiler: G.V. Sklovskiy; Resp. Ed.: A.V. Topchiyev, Academician; Ed. of Publishing House: V.A. Boyarskiy; Tech. Ed.: I.N. Guseva.

PURPOSE: This book is intended for a wide circle of readers including those who have had no training in chemistry. It can also serve as a manual for propagandists, teachers, and journalists.

Card 1/8

Chemistry of Large Molecules (Cont.) SOV/1589

COVERAGE: This collection of articles reflects the trend for the future development of the Soviet chemical industry as indicated by the May plenary session of the Central Committee of the Communist Party within the framework of the new Seven Year Plan. These articles were published in newspapers and journals. The authors, scientists and industry workers, developed the theme of accelerated development of the chemical industries, and sciences, with stress on the manufacture of synthetic fibers, plastics, and other materials. Some of the articles were abridged, revised, or enlarged. The articles were selected so as to give an adequate survey of the chemistry and technology of high-molecular-weight compounds and their use in industry, agriculture, and in the manufacture of consumers' goods. Mentioned are raw materials for the production of polymers. This book belongs to the popular-science series of the Academy of Sciences. Similar volumes are intended for future publication. No references are given.

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Chemistry of Large Molecules (Cont.) SOV/1589

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK V.V.

AUTHORS: Kolesnikov, G. S., Korshak, V. V. Smirnova, T. V., 62-1-14/29

TITLE: Synthesis of Polyarylenealkyles (Sintez poliarilenalkilov) Report 2: The Polycondensation of 1,2-Dichloroethane with Diarylalkanes (Soobshcheniye 2. Polikondensatsiya 1,2-dikhloretana s diarilalkanami)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 1, pp 85 - 87 (USSR)

ABSTRACT: As was shown already earlier, 1,2-dichloroethane forms in presence of chlorine-aluminum beside the high-molecular products of polycondensation 1,2-diphenylethane and bis-(phenylethyl) benzene which are apparently the first low-molecular products of this reaction. In order to prove this assumption, the authors investigated the polycondensation of the 1,2-dichloroethane with 1,2-diphenylethane in presence of chlorine aluminum. The method was the same, except a deviation (reference 1). Tables 1 and 2 show the experimental results. From the polycondensation of the 1,2-diphenylethane polyphenyleneethyl (with a much higher molecular weight) is formed, obtained by polycondensation of the 1,2-dichloroethane with benzene. 1,2-dichloroethane enters into the reaction of polycondensation not only with 1,2-diphenylethane, but also with diphenyl (however, not with diphenylmethane).

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Synthesis of Polyarylenealkyles. Report 2:
The Polycondensation of 1,2-Dichloroethane with Diarylalkanes 62-1-14/29

There are 2 tables, and 3 Slavic references.

ASSOCIATION: Institute of Elemental-Organic Compounds, AS USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR).

SUBMITTED: June 30, 1956

AVAILABLE: Library of Congress

1. Arylenealkyles-Synthesis 2. 1,2-Dichloroethane-Condensation reactions 3. Diarylalkanes-Condensation reactions

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Korshak, V. V., Golubev, V. V., Karnova, G. V. 62-1-15/29

TITLE: Heterochain Polyesters (O geterotsepnykh poliefirakh)
Report 6: The Mixed Polyesters of the Ethylene Glycol and Two Dicarboxylic Acids (Soobshcheniye 6. Smeshannyye poliefiry etilenglikolya i dvukh dikarbonovykh kislot)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 1, pp. 88-95 (USSR)

ABSTRACT: Karozers and Dorai (reference 1) were the first to obtain a mixed polyester. This mixed polyester differed in its properties from the obtained alloy of the polyethylene succinate and polyethylene sebacynate. Greater attention was paid to the research of mixed aromatic-aliphatic poly-esters. A short description of the investigation results in the above mentioned field of Edgar, Izard and Griehl (references 3,4,5,6) follows. In the experiment carried out by the authors of this paper the polycondensation of bifunctional compounds was used in order to obtain mixed polyesters. Di-ß-hydroxyethylene esters of the dicarboxylicacids were used as initial products.
The following was reported by the authors on the obtained results: The properties of the mixed poly-esters with which the authors

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62-1-15/29

Heterochain Polyesters
Report 6: The Mixed Polyesters of the Ethylene Glycol and Two Dicarboxylic Acids

deal in the present paper vary to a great extent according to the composition of the initial component. Some poly-esters are solid elastic products, some are brittle. Others are soft or viscous glutinous liquids. In all systems poly esters can be found with a minimum melting temperature which is obtained by the interaction of the terephtalic -and aliphatic acid (1o:9o, 2o:8o, or 3o:7o mol.%). (Figure 1-6). The same rules, as within every system, can be observed with respect to the minimum temperatures (see table 7). The minimum temperatures drop from 87 to -18°, and then rise again up to 41°. The solubility of the mixed poly-esters in solvents (link benzene and cyclohexanone) is determined by the content of terephtalic acid (see table 8a). Dicomponent poly esters with a content of terephtalic acid of more than 5o, 6o% resp. are not soluble, under 5o% they are soluble in certain solvent (tables 1-8). The properties of the mixed poly-esters depend on the correlation of the initial components. Therefore it was interesting to observe how these correlations in the reaction process are conserved. For this purpose an elementary analysis of the poly esters for various interactions was carried out. The results of this analysis are to be seen in table 9. As

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62-1-15/29

Heterochain Polyesters
Report 6: The Mixed Polyesters of the Ethylene Glycol and Two Dicarboxylic Acids

we see, the computed composition corresponds to a great extent to that obtained onthe strength of the experiment. There are 6 figures, 9 tables, and 7 references, 1 of which is Slavic.

ASSOCIATION: Institute of Elemental-Organic Compounds, AS USSR (Institut elementoorganicheskikh soyedineniy Akademiii nauk SSSR)

SUBMITTED: August 4, 1956

AVAILABLE: Library of Congress

1. Mixed polyesters-Chemical analysis 2. Ethylene glycol-Chemical reactions 3. Dicarboxylic acids-Chemical reactions

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V.

62-1-26/29

AUTHORS: Kharitonov, V. M., Frunze, T. M., Korshak, V. V.

TITLE: From the Field of Heterochain Polyamides (Iz oblasti geterotsepnykh poliamidov). Report 5: The Investigation of the Kinetics of the Formation of Combined Polyamides From Hexamethylenediammonium-azelainate and ε-caprolactame (Soobshcheniye 5. Issledovaniye kinetiki obrazovaniya smeshannykh poliamidov iz geksametilendiammoniy-azelainata i ε-kaprolaktama).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 1, pp. 115-117 (USSR)

ABSTRACT: Before this paper the results of the investigation of the kinetics of the polycondensation of hexamethylenediammonium-adipinate and of the hexamethylenediammoniumazelainate (references 1-5) were communicated by the authors. As to the present report (5): The reaction was carried out according to the already earlier described method. It was found that in the common polycondensation of the hexamethylenediammoniumazelainate and ε-caprolactame in the first place the more active component (hexamethylenediammoniumazelainate) enters the polyamidation reaction and only in the last stages of the reaction the composition of the initial reaction mixture (and of the forming polyamides) becomes equal. Furthermore it was shown

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From the Field of Heterochain Polyamides. Report 5: The Investigation of the Kinetics of the Formation of Combined Polyamides From Hexamethylenediammonium-azelainate and ε-caprolactame 62-1-26/29

that in the formation processes of the combined polyamides the structures of the forming polymers is determined only in the last stages by the correlation of the initial substances (and not by the kinetics). There are 3 figures and 5 references, 5 of which are Slavic.

ASSOCIATION: Institute of Elemental-Organic Compounds, AS USSR and the All-Union Scientific Research Institute for Synthetic Fibers (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR i Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna)

SUBMITTED: August 8, 1957

AVAILABLE: Library of Congress

1. Amides-Synthesis 2. Hexamethylenediammoniumazelainate-Condensation reactions 3. ε-Caprolactame-Condensation reactions

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Korshak, V. V., Gribova, I. A., Shitikov, V. K. 62-2-13/28

TITLE: Investigations in the Field of Organophosphorus Polymers (Issledovaniye v oblasti fosfororganicheskikh polimerov). Report 2: Polycondensation of Di-β-Ethyl-Chloride-Ethers of Alkyl- and Arylphosphinic Acids (Soobshcheniye 2. Polikondensatsiya di-β-khloretilovykh efirov alkil- i arilfosfinovykh kislot).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2, pp. 210-216 (USSR).

ABSTRACT: The authors discovered that dichloroethane is separated on heating of the di-β-ethylene-chloride-ethers of alkyl- and arylphosphinic acids (from 220-250° C) and that a phosphorus-containing polymer forms. For the purpose of a thorough examination of this reaction and the properties of the developing polymers the authors performed an investigation of the polycondensation of the di-β-ethyl-chloride-ethers of methyl-, α-methyl-chloride- and phenylphosphinic-acids as well as of tri-β-ethyl-chloride-phosphate. (For the properties of the produced esters see table 1, on the influence of the reaction temperature see tables 2 and 3). The polycondensation of the

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Investigations in the Field of Organophosphorus Polymers. Report 2: Polycondensation of Di-β-Ethyl-Chloride-Ethers of Alkyl- and Arylphosphinic Acids. 62-2-13/28

esters was performed at 220-225° C. The investigation of the influence of the reaction temperature upon the increase in molecular weight of the polymer and the yield of low-molecular products was performed within the temperature interval 220-250° C by heating of the di-β-ethyl-chloride-ester of methylphosphinic acid. The molecular weight of the polymer is highly dependent on the reaction temperature (see table 3). Investigations (see table 4) were made on the nature of the substituents at the phosphorus atom and its influence upon the reaction velocity of the polycondensation. In the present paper it was also reported that the formation of a cyclic ester takes place simultaneously with the reaction of polycondensation. Finally it was stated that at 250° C a thermal destruction of the polymer sets in, where methylphosphinic acid with separation of acetaldehyde forms. There are 4 tables and 5 references, 2 of which are Slavic.

ASSOCIATION: Institute for Element-Organic Compounds AN USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR).

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Korshak, V. V., Frunze, T. M., Petrova, V. F. 62-2-14/28

TITLE: From the Field of Heterogeneous Chain Polyamides (Iz oblasti geterotsepnykh poliamidov). Information 6: The Production of Polyamides and Polyamide Esters by Means of an Aminolysis of Polyesters (Soobshcheniye 6. Polucheniye poliamidov i poliamidoefirov putem aminoliza poliefirov).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2, pp. 217-220 (USSR).

ABSTRACT: The suitability of the above-mentioned high-molecular compounds for diverse exchange reactions under the influence of low-molecular initial substances was already shown by some examples. The acydolysis of the polyesters by the action of adipic acid as well as the alcoholysis of polyesters were examined. The aminolysis of polyesters is a reaction of this type which has hitherto not been described in publications. It is of interest because it may be considered a way toward the production of polyamide esters and polyamides. In the present paper the authors deal with the reaction of the aminolysis of polyethylensebacinate with hexamethylendiamine (table 1). It was found that in the final result an exchange of the ethylene-

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From the Field of Heterogeneous Chain Polyamides. Information 6: The Production of Polyamides and Polyamide Esters by Means of an Aminolysis of Polyesters. 62-2-14/28

-glycol residues and the residues of the hexamethylen-diamine takes place, where polyamide esters or polyamides (in dependence on the common behavior of the initial substances) formed. There are 2 tables and 4 references, 4 of which are Slavic.

ASSOCIATION: Institute for Element-Organic Compounds AN USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR).

SUBMITTED: August 9, 1956

AVAILABLE: Library of Congress

1. **Polyesters-Exchange reactions** 2. **Polyamides-Production**
3. **Polyamide esters-Production**

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Korshak, V. V., Slonimskiy, G. L., Krongauz, Ye.S. 62-2-15/28

TITLE: From the Field of Heterogeneous Chain Polyamides (Iz oblasti geterotsepnykh poliamidov). Information 7: On the Thermal Destruction of Polyhexamethylenadipinamide (Soobshcheniye 7. O teplovoy destruktsii poligeksametilenadipinamida).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2, pp. 221-226 (USSR).

ABSTRACT: The considerable expansion of the field of application of high polymers during recent years required further investigation of the behavior of these polymers under various conditions, among them also in the case of their aging. This phenomenon may be caused by various external circumstances, the causes may be of a physical or of a chemical nature. Because of the immense variety of the aging-phenomena of polymers the authors considered it useful to investigate one of the simplest causes of the aging of these polymers -the thermal cause- especially carefully. As test object the authors selected polyhexamethylenadipinamide. The influence exerted by the heating of the molten polyamide upon its molecular weight was especially thoroughly investigated. In the case of isothermal heating

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[illegible] emphasized in this connection, especially the part of the interchain-exchange reactions in the determination of the equilibrium value of the molecular weight of the polyamide on the given conditions. There are 8 figures, 1 table, and 12 references, 9 of which are Slavic.

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Inst. Elements-Organic Compds. AS USSR

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Frunze, T. M., Korshak, V. V. 62-58-3-15/30

TITLE: From the Field of Heterogeneous Chain Polyamides (Iz oblasti geterotsepnykh poliamidov)
Communication 8. On the Solubility of Mixed Polyamides (Soobshcheniye 8. O rastvorimosti smeshannykh poliamidov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 3, pp. 344-352 (USSR)

ABSTRACT: In this work special attention was paid to ethyl alcohol, for it is the most favorable solvent for many types of mixed polyamides. The authors investigated the inter-dependence between the solubility and the composition of mixed polyamides of diverse structure. They showed that the solubility of mixed polyamides was considerably improved, especially of those which were obtained from a polyamide-forming component. For this see table 1. The influence exerted by the composition upon the melting temperature is greater than upon the solubility. It was found that for the investigated series of polyamides the solvents are according to their dissolving ability divided into phenols, alcohols,

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methyl- and ethyl-cellosolve. In that series in which the polyamides show the lowest melting temperature their solubility is the best. It was further found that the introduction of aromatic components into the composition of the mixed polyamide leads to a deterioration of the solubility of the obtained products. There are 4 figures, 8 tables, and 6 references, all of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute for Elemental-organic Compounds, AS, USSR)

SUBMITTED: September 1o, 1956

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Korshak, V. V., Kolesnikov, G. S. Fedorova, L. S.

62-58-3-16/10

TITLE: Synthesis of Polyarylene Alkyls (Sintez poliarilenalkilov) Communication 3. The Polycondensation of 1,2-Dichlorethane With Fluorobenzene (Soobshcheniye 3. Polikondenzatsiya 1,2-dikhloretana s ftorobenzolom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 3, pp. 353-356 (USSR)

ABSTRACT: During the investigation of the polycondensation of aromatic hydrocarbons with dihaloidalkanes in the presence of aluminum chloride the authors discovered that the presence of a substituent in the benzene nucleus (e. g. of the chlorine atom or methyl group) renders the formation of three-dimensional polycondensation products difficult. For the purpose of determining the influence of the magnitude of a substituent upon the tendency toward the formation of three-dimensional products the authors investigated the polycondensation of 1,2-dichlorethane with fluorobenzene in the presence of aluminum chloride. For the purpose of determining the influence of the correlation of the reacting substances upon

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V.V.; BEKASOVA, N.I.; ZAMYATINA, V.A.

Heterogeneous polyesters. Report No.10: Polycondensation kinetics of diethylolterephthalate. Izv. AN SSSR Otd. khim. nauk no.4:466-491 Ap '58. (MIRA 11:5)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Condensation products (Chemistry))
(Terephthalic acid)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V.V.

AUTHORS: Korshak, V. V., Zamyatina, V. A., Bekasova, N. I. 62-58-4-14/32

TITLE: Heterogenous Chain Polyesters (O geterotsepnykh poliefirakh). Communication 9. Catalysts of the Reaction of Etherification (Soobshcheniye 9. Katalizatory reaktsii polieterifikatsii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 4, pp. 482-485 (USSR)

ABSTRACT: The reaction of the polycondensation of ethylene glycol with the esters of terephthalic acid takes place very slowly without catalysts. The number and the kind of catalysts exercize an essential influence on the velocity of the reaction as well as on the molecular weight of the forming terephthalates. According to patent data alcoholic metals, alcoholates (and their oxides) are suggested for the production of polyethylene terephthalates (of dimethylterephthalate and ethylene glycol). As initial substances dimethyl terephthalate and ethylene glycol as well as diethylol

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Heterogenous Chain Polyesters. Communication 9. Catalysts of the Reaction of Etherification

62-58-4-14/32

terephthalate were used. The polycondensation process takes place in two stages: the peresterification and the polycondensation. The use of diethylol terephthalate for the production of polyester has hitherto not been described in technical literature. For the first time one of the authors of this work suggests the production of polyester. The results of the polycondensation of diethylol terephthalate is shown in table 2. The effect of some better usable catalysts was examined by some experiments. The results obtained showed that caustic alkali can be used successfully as catalyst. The duration of heating in vacuum must be prolonged in this case (see table 3). With germanium dioxide (or lithium-hydroxide addition respectively) satisfactory results were also achieved. However, they were not better than those obtained with aluminum oxide and lithium hydroxide. There are 3 tables and 1o references, 4 of which are Soviet.

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Inst Elements-Organic Compounds

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V.V

AUTHORS: Korshak, V. V., Bekasova, N. I., Zamyatina, V. A. 62-58-4-15/32

TITLE: Heterogenous Chain Polyesters (O geterotsepnykh poliefirakh). Communication 1o. The Kinetics of the Polycondensation of Diethylole-Terephthalate (Soobshcheniye 1o. Kinetika polikondensatsii dietilolterefталата)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 4, pp. 486-491 (USSR)

ABSTRACT: The reaction of the polycondensation of diethylole-terephthalate has hitherto not been described in detail in technical literature. In the present paper the authors report on the results of kinetic investigations of the polycondensation reaction which takes place as follows: $n\ HOCH_2\ CH_2OCOC_6H_4COOCH_2\ CH_2OH \longrightarrow$

$\longrightarrow H(OCH_2CH_2OCOC_6H_4CO)_nOCH_2CH_2OH+(n-1)HOCH_2CH_2OH.$

Card 1/2 The kinetics of the polyesterification of diethylole

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Heterogenous Polyesters. Communication 1o. The Kinetics of the Polycondensation of Diethylole-Terephthalate 62-58-4-15/32

terephthalate in temperature intervals of from 24o-285° at atmospheric pressure was investigated. Furthermore the velocity of the reaction was determined. The activation was determined (35ooo cal/mol). It was found that the polyesterification of diethylole terephthalate without catalysts obeys the reaction rules of the second order. At a temperature of 285° the reaction equilibrium is set up and a further heating does not change the molecular weight of the polyester any longer. The kinetics of the polyesterification of diethylole terephthalate was investigated in the presence of catalysts consisting of an hydrate of lithium oxide and lithium aluminate. These catalysts accelerate the reaction.
There are 3 figures, 3 tables and 18 references, 12 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute for Elemental-organic Compounds, AS USSR)

SUBMITTED: October 12, 1956

AVAILABLE: Library of Congress

Card 2/2

1. Diethylole terephthalate—Condensation—Reaction

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

KORSHAK, V. V.

AUTHORS: Kolesnikov, G. S., Korshak, V. V. Suprun, A. P. 62-58-4-16/32

TITLE: Synthesis of Polyarylene Alkyls (Sintez poliarilenalkilov). Communication 4. Temperature Influence on the Course of the Copolycondensation of Benzene and Chlorobenzene with Dichloroethane (Soobshcheniye 4. Vliyaniye temperatury na techeniye sovmestnoy polikondensatsii benzola i khlorbenzola s dikhloretanom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 4, pp. 492-497 (USSR)

ABSTRACT: Until now mainly the influence of the mixture of initial substances on the properties of the forming polycondensation products has been investigated. It was assumed that the compositions of the copolymer and the mixture of initial substances was identical. This is, however, only correct when a certain polycondensation equilibrium exists. When this equilibrium does not exist the initial substances can be made use of only insufficiently. This again leads to the formation of copolymers as could be

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Synthesis of Polyarylene Alkyls. Communication 4. Temperature Influence on the Course of the **Copolycondensation of** Benzene and Chlorobenzene with Dichloroethane

62-58-4-16/32

observed in the copolymerization of vinyl compounds. Then such copolymers form, the composition of which is subject to changes during polycondensation. Until now the process of common polymerization has not been investigated to such an extent that the reason for these changes of the forming copolymers could be explained. In the present paper the authors report on the carried out investigation of the influence of the reaction temperature on the course of the common polycondensation of 1,2-dichloroethane with benzene and chlorobenzene in the presence of aluminum chloride. It was shown that with increasing prolongation of the reaction also the content of chlorine in the polymer increases. From this is to be concluded that the activity of benzene and chlorobenzene in the interaction with chloroethane is different. Furthermore an equation was suggested which connects the yield in copolymers with the temperature and the duration of reaction.

There are 5 figures, 5 tables and 6 references, 2 of which are Soviet.

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Inst Elemento-Organic Compounds AS USSR

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

62-58-5-11/27

AUTHORS: Kolesnikov, G. S., Korshak, V. V., Suprun, A. P.

TITLE: Synthesis of the Polyarylenalkyles (Sintez poliarilenalkilov) Communication 5: The Influence of the Concentration of the Catalyst on the Course of Common Polycondensation of Benzene and Chlorobenzene With 1,2-Dichloroethane (Soobshcheniye 5. Vliyaniye kontsentratsii katalizatora na techeniye protsessa sovmestnoy polikondensatsii benzola i khlorbenzola s 1,2-dikhloretanom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 5, pp. 600 - 604 (USSR)

ABSTRACT: In the preceding report the authors reported on the results of investigation of the influence of temperature of the reaction on the course of the process of common polycondensation of benzene and chlorobenzene with dichloroethane. Continuing the investigations in this field, the authors dealt in the present report with the influence of the concentration of the catalyst on the further course of polycondensation. The influence of the concentration of aluminumchloride on the course of common

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Synthesis of the Polyarylenalkyles.Communication 5: 62-58-5-11/27
The Influence of the Concentration of the Catalyst on the Course of Common Polycondensation of Benzene and Chlorobenzene With 1,2-Dichloroethane

polycondensation of the 1,2-dichloroethane with benzene and chlorobenzene was investigated. It was found that the chlorine-content in the copolymer increases according to the prolongation of the reaction period. This confirms the already previously found heterogeneity of the relative activity of benzene and chlorobenzene in the interaction with dichloroethane. Further, the influence of the change of the reaction--temperature according to the change of concentration of the catalyst on the course of common polycondensation of dichloroethane was compared with that of benzene in the presence of aluminumchloride. There are 5 figures, 4 tables and 4 references, 3 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute forElemental-organic Compounds AS USSR)

SUBMITTED: November 1, 1956

1. Cyclic compounds--Synthesis 2. Aluminum chlorides--Catalytic properties 3. Benzenes--Condensation reactions 4. Chlorobenzene--Condensation reactions 5. Dichloroethane--Condensation reactions

Card 2/2

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

62-58-5-12/27

AUTHORS: Kolesnikov, G. S., Korshak, V. V., Suprun, A. P.

TITLE: Synthesis of the Polyarylenalkyles (Sintez poliarilenalkilov) Communication 6: Influence of the Correlation of Initial Components on the Course of Process of the Common Polycondensation of Benzene and Chlorobenzene With 1,2-Dichloroethane(Soobshcheniye 6. Vliyaniye sootnosheniya iskhodnykh komponentov na techeniye protsessa sovmestnoy polikondensatsii benzola i khlorbenzola s 1,2-dikhloretanom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 5, pp. 605 - 613 (USSR)

ABSTRACT: In previous works the influence of the reaction-temperature and of the concentration of the catalyst on the course of the common polycondensation of benzene and chlorobenzene with 1,2-dichloroethane in the presence of aluminumchloride was discussed (References 1,2). The investigation described in the present report, served for the purpose of determining the influence of the correlation of the components in the mixture of

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62-58-5-12/27

Synthesis of the Polyarylenalkyles.Communication 6: Influence of the Correlation of Initial Components on the Course of Process of the Common Polycondensation of Benzene and Chlorobenzene With 1,2-Dichloroethane

reactions- (in first place of the aromatic hydrocarbons). The applied method of performance was the same as that applied in the previous test. It results from tables 1 and 2 and from diagram 1 that with divided polycondensation of the benzene-dichloroethane-and chlorobenzene-dichloroethane-systems, the velocity of this process is substantially higher in the case of the polycondensation of chlorobenzene with dichloroethane. The coefficient of polymerization of the polycondensation-product of benzene with dichloroethane is higher than the coefficient of polymerization of the polymer (obtained from chlorobenzene and dichloroethane). The extent of the relative activity of chlorobenzene was determined (in which case the activity of benzene was assumed to be "1"). It was shown that the activity of these aromatic hydrocarbons does not depend on their concentration in the initial mixture. Moreover, an empiric equation was found which combines the structure

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62-58-5-12/27

Synthesis of the Polyarylenalkyles. Communication 6: Influence of the Correlation of Initial Components on the Course of Process of the Common Polycondensation of Benzene and Chlorobenzene With 1,2-Dichloroethane

of the copolymer (with its yield) with the correlation of the aromatic hydrocarbons in the initial mixture. An increase in the concentration of dichloroethane in the mixture of reaction causes a corresponding reduction of the yield of the copolymer. There are 5 figures, 1o tables and 5 references, 4 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute for Elemental-organic Compounds AS USSR)

SUBMITTED: November 1, 1956

1. Cyclic compounds--Synthesis 2. Benzenes--Condensation reactions 3. Chlorobenzene--Condensation reactions 4. Dichloroethane--Condensation reactions 5. Aluminum chloride catalysts--Applications

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

62-58-5-13/27

AUTHORS: Korshak, V. V., Bekasova, N. I., Zamyatina, V. A.

TITLE: On the Heterogeneous Chain Polyesters (O geterotsepnykh poliefirakh) Communication 11: Chemical Destruction of Polyethyleneterephthalate (Soobshcheniye 11. Khimicheskaya destruktsiya polietilentereftalata)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 5, pp. 614 - 617 (USSR)

ABSTRACT: Polyethyleneterephthalate (and all products of it) is very stable in chemical respect. This property favors its processing. Polyethyleneterephthalate is difficult to dissolve and as polyester it must enter chemical reaction. The present report is devoted to the investigation of this property of polyethyleneterephthalate. The destruction of polyethyleneterephthalate was investigated in cresol-solution at various temperatures. It was found in this connection that polyester decomposes when heated above 110°C. Moreover the acidolysis and glycolysis of

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62-58-5-13/27

On the Heterogeneous Chain Polyesters. Communication 11: Chemical Destruction of Polyethyleneterephthalate

polyethyleneterephthalate in a diphenyl-solution (at 200°C) on the action of adipic-acid and ethyleneglycol was investigated. It was found with this investigation that the degree of decomposition increases if an increase of the decomposing substances is observed simultaneously. Concluding, the decomposition-products were more closely defined. There are 3 figures and 14 references, 8 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute for Elemental-organic Compounds AS USSR)

SUBMITTED: November 10, 1956

1. Polyethyleneterephthalate--Properties 2. Polyethyleneterephthalate --Decomposition

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

62-58-5-14/27

AUTHORS: Korshak, V. V., Kolesnikov, G. S., Zhubanov, B. A.

TITLE: Phosphor-Organic Polymers (Fosfororganicheskiye polimery) Communication 3: Polycondensation of p-Chlorophenyldichlorophosphines With 1,2-Diphenylethane (Soobshcheniye 3. Polikondensatsiya p-khlorfenildikhlorfosfina s 1,2-difeniletanom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 5, pp. 618 - 625 (USSR)

ABSTRACT: The phosphorous highly-molecular compounds in which phosphorus inserts in the basic-chain of the polymer and in which phosphorus is immediately combined with the hydrocarbon-atoms, have been very little investigated up till now. In the respective publication only the products of copolymerization of unsaturated compounds with dichlorophosphines in which the main chain consists of carbon atoms and phosphorus atoms, are given. A series of experiments in which the molar correlation of the initial substances was 1:1, was carried out for the purpose of clearing the influence of the concentration of the catalyst on the

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Phosphor-Organic Polymers. Communication 3: Polycondensation of p- Chlorophenyldichlorophosphines With 1,2-Diphenylethane 62-58-5-14/27

process of polycondensation of p-chlorophenyldichlorophosphine with diphenylethane. The essential rules governing the polycondensationprocess were determined with the investigation of the polycondensation of the p-chlorophenyldichlorophosphine with 1,2-diphenylethane in the presence of aluminumchloride. The substitution of a hydrogen-atom in benzene by a phosphorous radical with simultaneous formation of a phosphorus-carbon bond leads to the deactivation of the remaining hydrogen-atoms in the benzene-ring. It was found that the polycondensation of p-chlorophenyldichlorophosphine with diphenylethane is complicated by processes which take place according to the way of reaction of superarylation. There are 5 tables and 16 references, 13 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute for Elemental-organic Compounds AS USSR)

SUBMITTED: November 12, 1956

1. Phosphorous compounds (Organic)--Analysis 2. Diphenylethane --Condensation reactions 3. Phosphines--Condensation reactions 4. Aluminum chloride catalysts--Applications

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Korshak, V. V., Vinogradova, S. V. 62-58-5-20/27

TITLE: On Heterogeneous Chain Polyesters (O geterotsepnykh poliefirakh) Communication 12: Polyester of the Terephthalic - and Isophthalic Acid and of Diatomic Phenol (Soobshcheniye 12. Poliefiry tereftalevoy i izoftalevoy kislot i dvukhatomnykh fenolov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 5, pp. 637 - 640 (USSR)

ABSTRACT: Polyesters of the terephthalic- and isophthalic acid, as well as the diatomic phenols of various structure were synthetized and investigated with respect to the physical properties for the purpose of investigation of the influence of the structure of the initial substances. All polyesters (except the polyesters of O,O'-dioxydiphenyl) were obtained by means of polycondensation in divinyl-solution in nitrogen-flow according to a slow increase in temperature (from 120 to 230°). Polyesters of p,p' diphenylpropane were also synthetized with terephthalic-and isophthalic acid. The softening-temperatures fluctuated between 350 and 275°C. As results from the table, these temperatures depend substantially on the structure of the polymeric chain. The vitrification -temperature of the first polyester amounted

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On Heterogeneous Chain Polyesters, Communication 12: 62-58-5-20/27
Polyester of the Terephthalic- and Isophthalic Acid and of Diatomic Phenol

to ~ 200°, that of the second to ~ 120°C. The polyesters of the p,p'-dioxyhexaphenylxylol had considerably lower softening-temperatures than the polyesters of the p,p'-dioxyphenylpropane. Especially high softening-temperatures are characteristic for the polyesters of dioxy-naphthalenes. It was not possible to melt the polyesters of the 1,6 and 1,5-dioxynaphthalenes without a decomposition taking place . There is 1 table.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute for Elemental-organic Compounds AS USSR)

SUBMITTED: December 30, 1957

1. Cyclic compounds--Synthesis 2. Cyclic compounds--Physical properties
3. Molecular structure--Determination

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Korshak, V. V., Mozgova, K. K. 62-58-5-26/27

TITLE: Letters to the Editor (Pis'ma redaktoru)
New Process for the Obtaining of Inoculation Copolymers (Novyy sposob polucheniya privitykh sopolimerov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk 1958, Nr 5, pp. 651-651 (USSR)

ABSTRACT: The authors carried out a test for applying a new process of inoculation (on the surface of the heterogeneous chain polyamides) of a carbochain polymer for the purpose of the modification of the properties of the heterogeneous chain polyamides. A process was achieved which guarantees the formation of a layer of the copolymer on the surface of the heterogeneous chain polyamide. This process consists in the formation of peroxide-groups-on the surface of the polyamide- which produce the formation of inoculated macromolecules of the carbochain polymer in these places. This new method of obtaining of inoculation copolymers of the polyamides with carbochain polymers proved useful also in the case of such heterogeneous chain polyamides as poly-ε-caproamide and the mixed polyamide (anide G-669); in the case of polyester: Polyethylenterephthalate

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Letters to the Editor. New Process for the Obtaining of Inoculation Copolymers 62-58-5-26/27

(lavsan).

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute for Elemental-organic Compounds AS USSR)

SUBMITTED: February 28, 1958

1. Cyclic compounds--Properties 2. Molecular structure--Determination
3. Stereochemistry--Applications

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Kolesnikov, G. S., Korshak, V. V., Suprun, A. P. SOV/62-58-6-18/37

TITLE: The Synthesis of Polyarylalkyls (Sintez poliarilenalkilov) Communication 7. Joint Polycondensation of the Systems Dichloroethane-Benzene-Fluorobenzene and Dichloroethane-Chlorobenzene-Fluorobenzene (Soobshcheniye 7. Sovmestnaya polikondensatsiya sistem dikhloretan-benzol-ftorbenzol i dikhloretan-khlorbenzol-ftorbenzol)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 6, pp. 763 - 766 (USSR)

ABSTRACT: In the preceding papers the authors spoke about the results of the investigation of the joint polycondensation of dichloroethane with benzene and chlorobenzene. For the purpose of explaining the behavior of other halide-substituted aromatic hydrocarbons in the case of joint polycondensation with dichloroethane and benzene the authors investigated the polycondensation of the systems dichloroethane-benzene-fluorobenzene and dichloroethane-chlorobenzene-fluorobenzene in the presence of aluminum chloride. The relative activity of the fluorobenzene is much lower

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

The Synthesis of Polyarylalkyls. Communication 7. SOV/62-58-6-18/37
Joint Polycondensation of the Systems Dichloroethane-Benzene-Fluorobenzene and Dichloroethane-Chlorobenzene-Fluorobenzene

than that of chlorobenzene. The polycondensation of fluorobenzene with dichloroethane was carried out for the first time by two of the authors of this paper and Fedorova (Ref 4). There are 3 figures, 3 tables, and 4 Soviet references.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds AS USSR)

SUBMITTED: November 12, 1956

1. Benzene-ethyl chloride systems--Chemical reactions
2. Condensation reactions 3. Aluminum chloride--Chemical effects

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Kolesnikov, G. S., Korshak, V. V., Smirnova, T. V. SOV/62-58-6-19/37

TITLE: The Synthesis of Polyarylene Alkyls (Sintez poliarilenalkilov) Communication 8. The Transarylation of Diphenyl Methane (Soobshcheniye 8. Perearilirovaniye difenilmetana)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 6, pp. 767-770 (USSR)

ABSTRACT: Two of the authors of the present paper have already described (Refs 1,2) the investigation of the reaction of the transarylation of 1,2-diphenyl ethane in the presence of aluminum chloride, on which occasion they solved the problem of the influence exercised by the temperature of the reaction and concentration of the catalyst upon the development of the process. In the course of the present paper they describe the investigation of the transarylation of diphenyl methane in the presence of aluminum chloride at various temperatures and concentrations of the catalyst. For this purpose the authors carried out a number of experiments during which the concentration of the catalyst and the duration of the reaction remained constant. The results obtained are shown by table 5.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

The Synthesis of Polyarylene Alkyls. Communication 8. The Transarylation of Diphenyl Methane SOV/62-58-6-19/37

In-so-far as the reaction of the transarylation of diphenyl methane is a catalytic process, transarylation experiments are carried out (at 90°) for the duration of the reaction at different concentrations for the purpose of determining the influence exercised by the concentration of the catalyst. The results obtained by these experiments are shown by tables 2, 6 and 7. In conclusion, the authors assume that the mechanism of the transarylation of diphenyl methane is similar to that of the transarylation of 1,2-diphenyl ethane. A difference exists solely with respect to the possibility of the formation of dihydroanthracene cycles at the end of the growing chain (as well as in the middle of the chain). There are 7 tables and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds AS USSR)

SUBMITTED: November 20, 1956

Card 2/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

The Synthesis of Polyarylene Alkyls. SOV/62-58-6-19/37
Communication 8. The Transarylation of Diphenyl Methane

1. Diphenyl methane--Synthesis 2. Aluminum chloride catalysts--Performance

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Frunze, T. M., Korshak, V. V., Kurashev, V.V., Kolesnikov, G. S., Zhubanov, B. A.

SOV/62-58-6-26/37

TITLE: On Some Phosphorus-Containing Polyamides (O nekotorykh fosforsoderzhashchikh poliamidakh)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 6, pp. 783 - 785 (USSR)

ABSTRACT: In order to explain the influence exercised by the phosphorus atom upon the properties of polyamides a number of polymers was obtained by the polycondensation of bis-(p-carboxyphenyl) phenylphosphinoxides with various aliphatic and aromatic diamines. The initial acid was obtained by the authors according to the following scheme:

$$p\text{-}CH_3C_6H_4MgBr \xrightarrow{+C_6H_5PCl_2} (CH_3C_6H_4)_2\ PC_6H_5 \xrightarrow{+Br_2\quad 2NaOH}$$

$$\rightarrow (CH_3C_6H_4)_2\ P(O)C_6H_5 \xrightarrow[H_2O+C_5H_5N]{KMnO_4} (HOOCC_6H_4)_2\ P(O)C_6H_5.$$

Polycondensation took place under the usual conditions (Ref 1). From the results mentioned (Tables 1,2) it may be seen that

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On Some Phosphorus-Containing Polyamides SOV/62-58-6-26/37

with the lengthening of the carbon chain of diamine from tetramethylene to decamethylene diamine softening-temperatures are reduced. At the same time, fluctuation becomes weaker. There are 2 tables and 6 references, 4 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds AS USSR)

SUBMITTED: January 27, 1958

1. Amides--Chemical properties 2. Phosphorus--Chemical effects
3. Condensation reactions

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: ~~Korshak, V. V.,~~ Gribova, I. A., Andreyeva, M. A.

SOV/62-58-7-14/26

TITLE: An Investigation Within the Field of Organophosphorus Polymers (Issledovaniye v oblasti fosfororganicheskikh polimerov) Communication 4: On the Polyesters of Some Phosphinic Acids and of Hydroquinone(Soobshcheniye 4. O poliefirakh nekotorykh fosfinovykh kislot i gidrokhinona)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 7, pp 880 - 885 (USSR)

ABSTRACT: Already earlier the authors showed that after the interaction between dichloranhydrides of the alkyl and aryl phosphinic acids with glycols in the presence of hydrogen chloride binding substances the formation of polymer esters takes place. In the present paper the authors describe the synthesis of polyesters of various phosphinic acids and of hydroquinone. It was found that the nature of the substituents at the phosphorus atom exerts a considerable influence on the properties of the polyesters. The introduction of an aromatic residue into the polymer chain leads to the production of solid products (in con-

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An Investigation Within the Field of Organophosphorus Polymers. Communication 4: On the Polyesters of Some Phosphinic Acids and of Hydroquinone SOV/62-58-7-14/26

trast to similar polymers being produced from aliphatic glycols). The polyesters produced were formed by the condensation of the chlorine anhydrides of the corresponding acids and of hydroquinone in the presence of metallic tin. The investigation of the binary system within the entire structural range (diapazon sostava) showed that a minimum of the melting temperature is exhibited by the copolymer (of a certain structure). There are 2 figures, 4 tables, and 7 references, 3 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds AS USSR)

SUBMITTED: December 21, 1956

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Kolesnikov, G. S., Korshak, V. V., Smirnova, T. V. SOV/62-58-9-17/26

TITLE: Synthesis of the Polyarylene Alkyls (Sintez poliarilenalkilov) Communication 9: Synthesis and Aryl Group Interchange in Monofluoro and Monochlorodiphenylmethane (Soobshcheniye 9. Sintez i perearilirovaniye monoftor- i monokhlordifenilmetanov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1958, Nr 9. pp 1123 - 1126 (USSR)

ABSTRACT: The authors attempted to determine whether only the non-substituted diaryl alkanes but also their derivatives undergo aryl group interchange reactions. For these investigations they synthesized the monohalogen derivative of diphenylmethane, as well as the meta- and para-chloro and meta- and para-fluoro derivatives of diphenylmethane. It was shown that aryl groups in these compounds can be replaced by other aryl groups by warming in the presence of aluminum chloride. m-chloro, m-fluoro, and p-fluorodiphenylmethanes were sythesized for the first time. It was found that the presence of a halogen atom weakens

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

Synthesis of the Polyarylene Alkyls. Communication 9: Synthesis and Aryl Group Interchange in Monofluoro and Monochlorodiphenylmethane SOV/62-58-9-17/26

the bond between the methylene group and the substituted aromatic nucleus. Halogen atoms which are meta to the methylene group exert no effect on the stability of this bond. There are 2 tables and 7 references, 6 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds, AS USSR)

SUBMITTED: February 14, 1957

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

5(3) SOV/62-58-12-13/22

AUTHORS: Korshak, V. V., Rogozhin, S. V., Makarova, T. A.

TITLE: On the Characteristic Features of the Polymerization of Styrene in the Presence of Bivalent Initiators (Ob osobennostyakh polimerizatsii stirola v prisutstvii bivalentnykh initsiatorov)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 12, pp 1482-1485 (USSR)

ABSTRACT: In the present paper the authors investigated the polymerization of styrene in the presence of phthaloyl and terephthaloyl peroxide. The results obtained (Tables 1 and 2) show that the terephthaloyl and phthaloyl peroxide initiate the polymerization of styrene. As, however, these initiators are practically insoluble in styrene, the course of the reaction is considerably slower than with benzoyl peroxide. The polymerization in the presence of terephthaloyl and phthaloyl peroxide differs from the one in the presence of benzoyl peroxide by the fact that a continuous and uninterrupted increase in molecular weight of the polymers takes place all through the duration of polymerization. This characteristic feature of the polymerization in the presence of bivalent initiators can ap-

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SOV/62-58-12-13/22

On the Characteristic Features of the Polymerization of Styrene in the Presence of Bivalent Initiators

parently be explained as follows: The main cause of a break of the chain during the radical polymerization is the recombination. In the case of a polymerization in the presence of benzoyl the recombination leads to the formation of a macromolecule which cannot grow any further. In the case of bivalent initiators such a reaction does not lead to the break of the chain, as the recombination product as well as the initial macromolecule remain active. This molecule has free valences at either end and can grow on in either direction. For this reason the recombination does not exert any disturbing influence at all on the growth process of the chain. It is maintained during the whole duration of the polymerization, which fact leads to the formation of extremely high-molecular polymers. The formation of monovalent radicals at the expense of the end groups of polymer oxides does not have any important influence on the total picture of polymerization. There are 3 tables and 7 references, 2 of which are Soviet.

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Inst. Elements-Organic Compds. AS USSR

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

AUTHORS: Korshak, V.V.; Pavlova, S.A. 69-20-3-15/24

TITLE: From the Field of Heterochain Polymers (Iz oblasti geterotsepnykh poliamidov) 10. The Effect of Some Organic Substances on the Stability of Alcoholic Polyamide Solutions (10. Vliyaniye nekotorykh organicheskikh veshchestv na stabil'nost' spirtovykh rastvorov poliamidov)

PERIODICAL: Kolloidnyy zhurnal, 1958, vol XX, Nr 3, pp 349-352 (USSR)

ABSTRACT: The stabilization of concentrated polymer solutions i.e. the retardation or prevention of the gel formation, is connected with the solubility of the polymers. In the article, the effect of various substances on the stability of concentrated solutions of the mixed polyamide Anid G-669 in ethyl alcohol has been considered. Anid G-669 has a molecular weight of 21,000. Several stabilizers like eresol, phenol, acid, water, benzene, etc. were used. The Graphs 1 - 4 show the effect of the different stabilizers in connection with the time of gel formation, the stabilizers concentration, the concentration of the water, etc. The stabilizing action of the non-solvent stabilizers is characterized by an optimum in the relationship between the solution stability and the stabilizer concentration and by a very great stabilizing action in the case

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69-20-3-15/24

From the Field of Heterochain Polymers. 10. The Effect of Some Organic Substances on the Stability of Alcoholic Polyamide Solutions

of water.
There are 6 graphs, 3 tables, and 1 Soviet reference.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Elemental-organic Compounds of the USSR Academy of Sciences)

SUBMITTED: July 11, 1957

Card 2/2 1. Polymers—Stabilization 2. Polymers—Solubility

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824930001-4

SOV/79-28-7-62/64

AUTHORS: Korshak, V. V., Frunze, P. M., Andreyev, D. N., Kukharskaya, E. V.

TITLE: Letter to the Editor (Pis'mo v redaktsiyu). On the Properties of Polyamides With Siloxane Groupings (O svoystvakh poliamidov s siloksanovymi gruppirovkami)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 7, pp. 1997 - 1998 (USSR)

ABSTRACT: The general interest prevailing in organosilicon compounds caused the authors to deal with the problem of whether the siloxane groupings in the chain of the initial dicarboxylic acid could exert an influence on the properties of the polyamides. For this purpose they synthesized polyamides from three dicarboxylic acids of the structure $HOOC-(CH_2)_2-Si(R_1R_2)-O-Si(R_1R_2)-(CH_2)_2-COOH$, where 1) $R_1=R_2=CH_3$, 2) $R_1=R_2=C_2H_5$, 3) $R_1=CH_3$, $R_2=C_2H_5$. From these acids polyamides were obtained by polycondensation with aliphatic and aromatic diamines, and from the mixtures of these acids as well as from the adipinic

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acid with hexamethylene diamine mixed polyamides were produced. It turned out that the introduction of siloxane compounds leads to the formation of polymers. They are of a rubber-like nature and have low melting points as compared to those produced from azelaic acid, which fact obviously depends on the influence of the siloxane grouping as well as on the presence of the side substituents at the silicon atom; also the lower melting point and other properties in the substitution of the methyl- by the ethylradical at the silicon atom tend to show this dependence.

ASSOCIATION: Institut elementarnoorganicheskikh soyedineniy Akademii nauk SSSR i Institut khimii silikatov Akademii nauk SSSR (Institute of Elemental-organic Compounds, AS USSR, and Institute of the Chemistry of Silicates, AS USSR)

SUBMITTED: April 10, 1958

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SOV/79-28-10-48/60

AUTHORS: Korshak, V. V., Mozgova, K. K., Zasechkina, A. P.

TITLE: The Influence of Low-Molecular Compounds on the Photochemical Destruction of Polyethylene Terephthalate (Vliyaniye nizkomolekulyarnykh veshchestv na fotokhimicheskuyu destruktsiyu polietilentereftalata)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2847 - 2853 (USSR)

ABSTRACT: In the paper under discussion, the conversion process of polyethylene terephthalate (Lavsan) under the influence of the full irradiation by a lamp PRK-2 on this polyester, as well as of the closer spectral region within the limits of 300-320 mμ, was investigated. At the same time, an attempt was made to determine the influence of certain low-molecular compounds of various structures on the conversion process of polyethylene phthalate on full ultraviolet irradiation. The samples of this compound available to the authors did not yield fully uniform absorption spectra; they differed from those already published, due, probably, to the

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